## REMARKS/ARGUMENTS

Claims 1-55 are pending in the above-captioned application. Of these claims, claims 1-36 and stand rejected and claims 37-55 are withdrawn from consideration. Claim 1 has been amended, and claims 37-55 have been cancelled.

I. Election/Restrictions

Applicants confirm that they elect to prosecute the invention of group I. This election is made without traverse. To simplify prosecution of this case, Applicants are canceling claims 37-55, while retaining the right to pursue those claims in a divisional application. The cancellation of the non-elected claims does not necessitate an amendment to the inventorship.

II. Rejections Under 35 U.S.C. §102

Claims 1-7, 9, and 14-36 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,640,995 ("Packard"). For a reference to anticipate a claim under 35 U.S.C. § 102(b), the reference must teach every element of the claim. Applicants assert that Packard cannot anticipate claim 1 because Packard does not disclose all of the elements of claim 1. MPEP § 2131.

Claim 1 covers a microfluidic device comprising two basic components: (1) a body structure with a microchannel network and a plurality of ports, at least one of which is in "fluid communication" with a microchannel in the network; and (2) a manifold with its own channel network, and an aperture in "fluid communication" with both the manifold's network and a port in the body structure. As explained in the specification, a channel network is a series of conduits and/or chambers fabricated *within* the interior of a structure. See e.g. Application pg. 7 lines 30-33; and pg. 9 lines 6-10. Note that the only difference between a "channel network" and a "microchannel network" is that the channels in a microchannel network are "microscale." See Application pg. 27 lines 5-15; and pg. 8 lines 17-19. So, in other words, the terms "channel network" and "microchannel network" in this Application refer to fluid passages within the interior of a structure, such as a "body structure" or "manifold." Since the channels are interior to the structure, fluid passages such as "ports" or "apertures" must be fabricated in the structure to provide fluid paths from the exterior of the structure into the channels. For example, in the structure (100) shown in Figure 1, ports (106) provide fluid paths from the exterior of the

structure (100) into the channels (110) within the structure (note that Figure 1A is an exploded view of the finished structure shown in Figure 1B).

In order for Packard to anticipate claim 1, Packard would have to disclose a device containing both a "body structure", and a "manifold", where both the "body structure" and "manifold" contain their own channel network. The devices disclosed in Packard only appear to have one channel network, so Packard cannot anticipate claim 1. As previously discussed, a channel network comprises fluid passages contained within the interior of the device. In Figure 11 of Packard (for example), the assembly of layers 80, 64, and 24 would enclose the slots (e.g. reference numbers 66, 68, and 70) in element 64, forming a network of channels within the interior of the assembled device. That channel network, however, would be the *only* channel network in the assembled device. The holes in element 24 can only correspond to either "ports" or "apertures", not "channels". As can be seen more clearly in Figures 9 and 10 of Packard, the holes in layer 24 provide fluid communication from the exterior of the device to the interior channel network in the same manner as the "ports" shown in Figure 1 of the Application (in Figure 1 the ports are numbered 106 and the channels are numbered 110), or in the same manner as the "apertures" shown in Figure 2 (in Figure 2 the apertures are numbered 216 and the channels are numbered 208). Note that layer 80 in Packard is a printed circuit board, and that the apertures in layer 80 only provide a path through which valves 14 can extend. See Packard col. 9 lines 53-58; and col. 10 lines 28-30. Since the devices shown in Packard appear to contain a single channel network, there cannot be an element-by-element correspondence between the devices in Packard and claim 1. Since Packard does not teach every element of claim 1, it cannot anticipate claim 1.

Since all of the other claims being prosecuted (claims 2-36) depend from claim 1, those claims are, by definition, narrower than claim 1. Thus if claim 1 is allowable over Packard, then the other claims rejected over Packard (claims 2-7, 9, and 14-16), should also be allowable over Packard.

Claims 1-8, 13-21, 23-26, 28-30, 32-34, and 36 are rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,117,290 ("Say"). Applicants assert that Say does not anticipate claim 1 because Say does not disclose all of the elements of claim 1. MPEP § 2131.

Claim 1 covers a structure in which an "aperture" in a manifold is in fluid communication with a "port" in a "body structure". Claim 1 has been amended so that an "aperture" in the manifold must be in fluid communication with a "port" in the "body structure" that is in fluid communication with the microchannel network. This additional limitation is in accordance with the spirit of the invention, which is to provide a manifold structure capable of delivering fluids into a microfluidic device. See e.g. Application pg. 7 lines 1-17. Therefore amended claim 1 requires that the manifold be in fluid communication (via the port) with the microchannel network in the "body structure".

In the apparatus shown in Say, the manifold (reference number 27 in Figure 1) is not in fluid communication with the channels in the component that must logically correspond to the "body structure" (reference number 3 in Figure 1). The item with reference 3, which Say calls a "fluid manifold", must correspond to the "body structure" because it is the only structure containing internal fluid channels. Say col. 5 lines 52-65. Note that the item with reference number 4 could not be the "body structure" in claim 1 because it is a "pneumatic valve actuator". Say col. 6 lines 17-31. The structure corresponding to the "manifold" in claim 1 (reference number 27) is not in fluid communication with the structure corresponding to the "body structure" (reference number 3), but is instead in fluid communication with the "pneumatic valve actuator" (reference number 4). Say col. 6 lines 31-39. Therefore Say does not disclose all of the elements of the microfluidic device described in amended claim 1.

Since all of the other claims being prosecuted (claims 2-36) depend from claim 1, those claims are, by definition, narrower than claim 1. Thus if claim 1 is allowable over Say, then the other claims rejected over Say (claims 2-8, 13-21, 23-26, 28-30, 32-34, and 36), should also be allowable over Say.

III. Rejections Under 35 U.S.C. §103

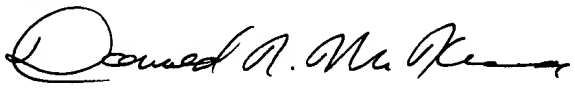
Claims 9-12 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Say. An obviousness rejection under 35 U.S.C. §103 requires that all claim limitations must be taught or suggested by the prior art. MPEP 2143.03. The obviousness rejections of claims 9-12 are based on the assumption that Say anticipates claim 1, and that the additional limitations in claims 9-12 are rendered obvious by Say. If amended claim 1 is not anticipated by Say, then the obviousness rejections of claims 9-12 cannot be sustained. Since Applicants assert that Say does

not anticipate claim 1, then Applicants also assert that claims 9-12 cannot be rendered obvious by Say.

## CONCLUSION

In view of the foregoing amendments and remarks, Applicants believe that the present application is in condition for allowance and action toward that end is respectfully requested. If the Examiner believes that a telephone interview would expedite the examination of this application, the Examiner is requested to contact the undersigned at the telephone number below.

Respectfully submitted,



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I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on **September 23, 2004**, by **Michael Moores.**

Signed: